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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/673,360	10/16/2000	Toshihiko Oba	11934/3	6711

757	7590	02/15/2008
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EXAMINER	
RIDER, JUSTIN W	

ART UNIT	PAPER NUMBER
2626	

MAIL DATE	DELIVERY MODE
02/15/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/673,360

Applicant(s)

OBA, TOSHIHIKO

Examiner

Justin W. Rider

Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 35,37,38,40-45,47,51 and 113-115 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 35,37,38,40-45,47,51 and 113-115 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

1. In response to the Office Action mailed 02 March 2007, applicant submitted a response filed 29 August 2007, in which the applicant amended claims 35 and 113 without adding new matter. Applicant added claims 114-115. The examiner notes that the examiner of record has changed.

Response to Arguments

2. Applicant's arguments filed 29 August 2007 have been fully considered but they are not persuasive. On pages 6-7 under the section entitled *Claims Rejections under 35 USC 103*, applicant alleges that **Rueda** does not mention a speech recognition process but merely a signal processing correction step. The examiner does not agree.

Applicant is directed to the drawing figure (Module 15) as well as the disclosure (Col. 3, lines 23-28). Both locations clearly teach the use of a speech recognition module, which at the time of invention have a clear function within the art.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 35, 37-39, 41-45, 47, 51, and 113 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Rueda (6,157,727)** referred to as **Rueda** hereinafter in view of **Takebayashi et al. (5,577,165)** referred to as **Takebayashi** hereinafter.

Claim 35: **Rueda** teaches a prosthetic hearing device (hearing aid, col. 2 lines 56-60) comprising:

- i. a sensor for detecting a speech (microphone, col. 3 lines 1-10);
- ii. a speech recognition processor that performs speech recognition on the detected speech (col. 3 lines 23-26);
- iii. wherein the speech recognition processor performs speech recognition in view of at least one of a physical state of the user and an operating condition of the prosthetic hearing device (col. 1 lines 53-56);
- iv. an output device (output transducer, Abstract) that outputs generated speech to the user and a speech generator (speech recognizer and processor, Fig. 1).

Rueda does not teach a speech generator that analyzes results of speech recognition to comprehend a semantic meaning in the detected speech and transforms the detected speech into a speech having a speech form assistive in understanding the semantic meaning in the detected speech.

However, **Takebayashi** does teach a speech generator that analyzes results of speech recognition to comprehend a semantic meaning in the detected speech and transforms the detected speech into a speech having a speech form assistive in understanding the semantic meaning in the detected speech (col. 6 lines 44-50).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement **Takebayashi** semantic recognition into **Rueda's** speech generator system in order to provide a speech dialogue system for improving human-computer interaction, because in conventional speech dialogue system, the speech response is usually given by a mechanical voice reading obtained by a text composition without any modulation of speech tone, so that it has often been difficult for the user to hear the message, (**Takebayashi**, Abstract and col. 2 lines 23-34).

Claim 37: **Rueda** discloses a device as per claim 35 above, further disclosing a speech recognition generator processor performs at least one of speaker recognition (speech recognizer and processor, Fig. 1).

Rueda does not teach a speech generator generates the speech representing results of the recognition.

However, **Takebayashi** teaches a speech generator that generates the speech representing the results of the recognition (speech understanding unit, col. 8 lines 25-45).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement **Takebayashi** into **Rueda's** speech generator system in order to provide high speech understanding of the almost freely uttered speech by using very little restrictions regarding the manner of speech utterance imposed on the user (**Takebayashi**, Abstract and col. 8 lines 25-30).

Claim 38: **Rueda** discloses a device as per claim 35 above, further disclosing a prosthetic hearing device wherein the speech recognition processor transforms detected speech in view of

at least one of a an operating condition of the prosthetic hearing device and a purpose for use of the device by the user (language translation, Abstract and col. 3 lines 20-29).

Claim 40: **Rueda** discloses a device as per claim 35 above, further disclosing wherein the speech generator transforms the detected speech by adding thereto a modifying language (language translation, Abstract).

Claim 41: **Rueda** discloses a device as per claim 35 above, further disclosing wherein the speech generator reproduces a speech previously produced when it determines the results from the speech recognition that it is necessary to reproduce the previously produced speech (col. 3 lines 1 - 10 and 20-27 and col. 1 lines 1-24; necessary storing information, thus able to reproduce it via speech generator)

Claim 42: **Rueda** discloses a device as per claim 35 above, further disclosing wherein the speech generator reproduces speech previously produced when it determines from the result of the speech recognition that it is necessary to reproduce the previously produced speech (col. 1, lines 1-10 and 20-28).

Claim 43: **Rueda** discloses a device as per claim 35 above, further disclosing wherein the speech data generator controls an output rate of the speech data (col. 3 lines 20-28).

Claim 44: **Rueda** discloses a device as per claim 35 above, further disclosing wherein the output device outputs the speech using a sample speech data synthesized by the speech generator (col. 3 lines 1-10 and 20-27; necessary in the translating process is a speech synthesized from a speech generator).

Claim 45: **Rueda** discloses a device as per claim 35 above, further disclosing a memory that has stored samples of speech data (Abstract, necessary in translating process), wherein the

output device outputs the sound speech data using sample speech data selected by the speech data generator from the memory (col. 3 lines 1-10 and 20-27; necessary in the translating process is a memory).

Claim 47: **Rueda** discloses a device as per claim 35 above, further disclosing the speech generator generates the speech that summarizes the detected speech (col. 3 lines 1-10 and 20-27).

Claim 51: **Rueda** discloses a device as per claim 35 above, further disclosing wherein the sensor selectively detects a speech necessarily from a specific speech source (col. 1, lines 1 - 10 and 20-27).

Claim 113: **Rueda** teaches prosthetic hearing device (hearing aid, col. 1 lines 56-60) comprising:

- i. a sensor for detecting a speech (microphone, col. 3 lines 1-10);
- ii. a speech recognition processor that performs speech recognition on the detected speech (col. 3 lines 23-26), wherein the speech generator transforms the detected speech in view of at least one of a physical state of the user and an operating condition of the prosthetic hearing device (col. 3 lines 20-29 and col. 1 lines 52-56, translation purpose)
- iii. an output device (output transducer, Abstract) that outputs generated speech to the user a speech generator (speech recognizer and processor, Fig. 1).

Rueda does not teach a speech generator that analyzes results of speech recognition to comprehend a semantic meaning in the detected speech and transforms the detected speech into a speech having a speech form assistive in understanding the semantic meaning in the detected speech.

However, **Takebayashi** does teach a speech generator that analyzes results of speech recognition to comprehend a semantic meaning in the detected speech and transforms the detected speech into a speech having a speech form assistive in understanding the semantic meaning in the detected speech (col. 6 lines 44-50).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement **Takebayashi** into **Rueda's** speech generator system in order to provide a speech dialogue system for improving human-computer interaction, because in conventional speech dialogue system, the speech response is usually given by a mechanical voice reading obtained by a text composition without any modulation of speech tone, so that it has often been difficult for the user to hear the message, (**Takebayashi**, Abstract and col. 2 lines 23-34).

Claim 114: **Rueda** discloses a device as per claim 35 above, however failing to, but **Takebayashi** does specifically disclose a memory that has stored a library of images compressing still and motion pictures (col. 18 lines 27-37), symbols (text, col. 7 lines 25-38), characters (text, col. 7 lines 25-38), notes (text, col. 7 lines 25-38), photos (animated picture, col. 18 line 33), animations (col. 18 lines 31-34), illustrations (human character image, col. 18 lines 35-39), voice spectrum patterns (Fig. 3) and colors (col. 25 lines 14-16), wherein the speech generator selects at least one image associated with the semantic meaning in the detected speech (col. 7 lines 23-31 and col. 6 lines 44,-50).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement **Takebayashi** into **Rueda's** speech generator system in order to provide a speech dialogue system for improving human-computer interaction, because in conventional speech dialogue system, the speech response is usually given by a mechanical voice reading

obtained by a text composition without any modulation of speech tone, so that it has often been difficult for the user to hear the message, (**Takebayashi**, Abstract and col. 2 lines 23-34).

Claim 115: **Rueda** discloses a device as per claim 114 above, however failing to, but **Takebayashi** does specifically disclose a display that displays the selected at least one image associated with the semantic meaning in the detected speech (col. 7 lines 30-37).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement **Takebayashi** into **Rueda**'s speech generator system in order to provide a speech dialogue system for improving human-computer interaction, because in conventional speech dialogue system, the speech response is usually given by a mechanical voice reading obtained by a text composition without any modulation of speech tone, so that it has often been difficult for the user to hear the message, (**Takebayashi**, Abstract and col. 2 lines 23-34).

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Application/Control Number:
09/673,360
Art Unit: 2626

Page 9


however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin W. Rider whose telephone number is (571) 270-1068. The examiner can normally be reached on Monday - Friday 7:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

J.W.R.
06 February 2008



DAVID HUDSPETH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER